

A hand is shown watering a small green seedling in dark soil. The background is a blurred image of the same scene, with a hand watering a seedling. The text is overlaid on the top left of the image.

NCTCOG

1. Organics Gap Analysis

2. Weatherford Compost Feasibility

+ Transitioning from Theory to Reality

Funded by the North Central Texas Council of
Governments and Texas Commission on Environmental
Quality

Introductions

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Purpose Regionally & Locally

NCTCOG REGION

- + Evaluate organic resource management infrastructure
- + Identify options for reducing disposal

WEATHERFORD

- + Determine feasibility of regional sludge compost facility for City of Weatherford

Why is this a public works issue?



Waste management facilities are critical public infrastructure.



Waste management impacts all aspects of public works projects.



Decisions by Public Works can drive future waste management needs.



Focus of Recommendation



How can public policy move private investment in sustainable development?



How to reduce public risk of investing in an area dominated by the private sector?



How can Public Works increase organics recovery and reduce waste?

Background

Regional Municipal Solid Waste Generation

33% of all waste in NCTCOG landfills is organics!

NCTCOG generates 11 million tons of MSW annually.

Majority is disposed in 18 regional MSW landfills.

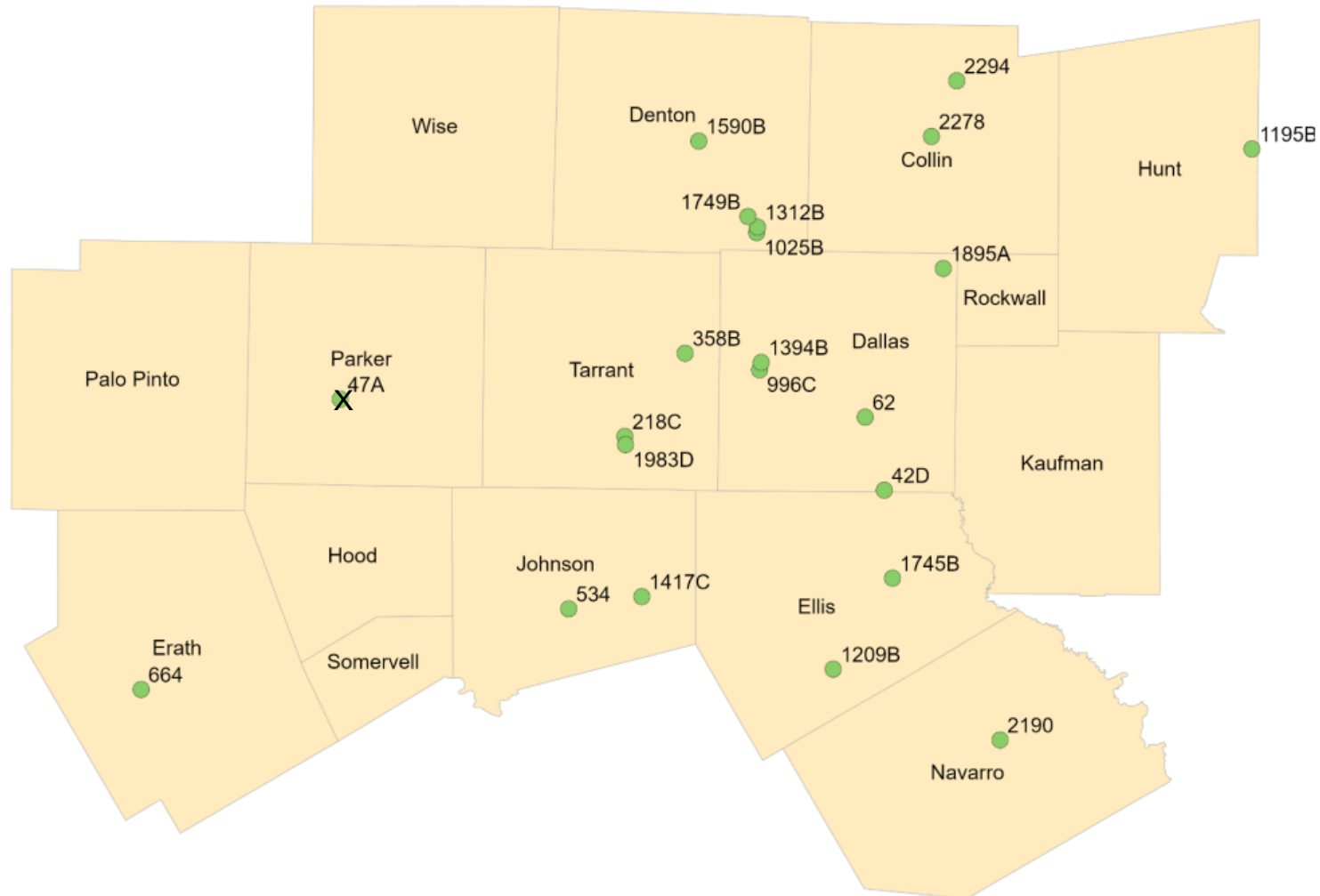
Regional disposal capacity is 30 years.

6 landfills have less than 15 years remaining capacity. (Weatherford is closed.)



Regional Landfills

COG 4: North Central Texas Council of Governments—Landfill Locations



Definition of Organic Resources

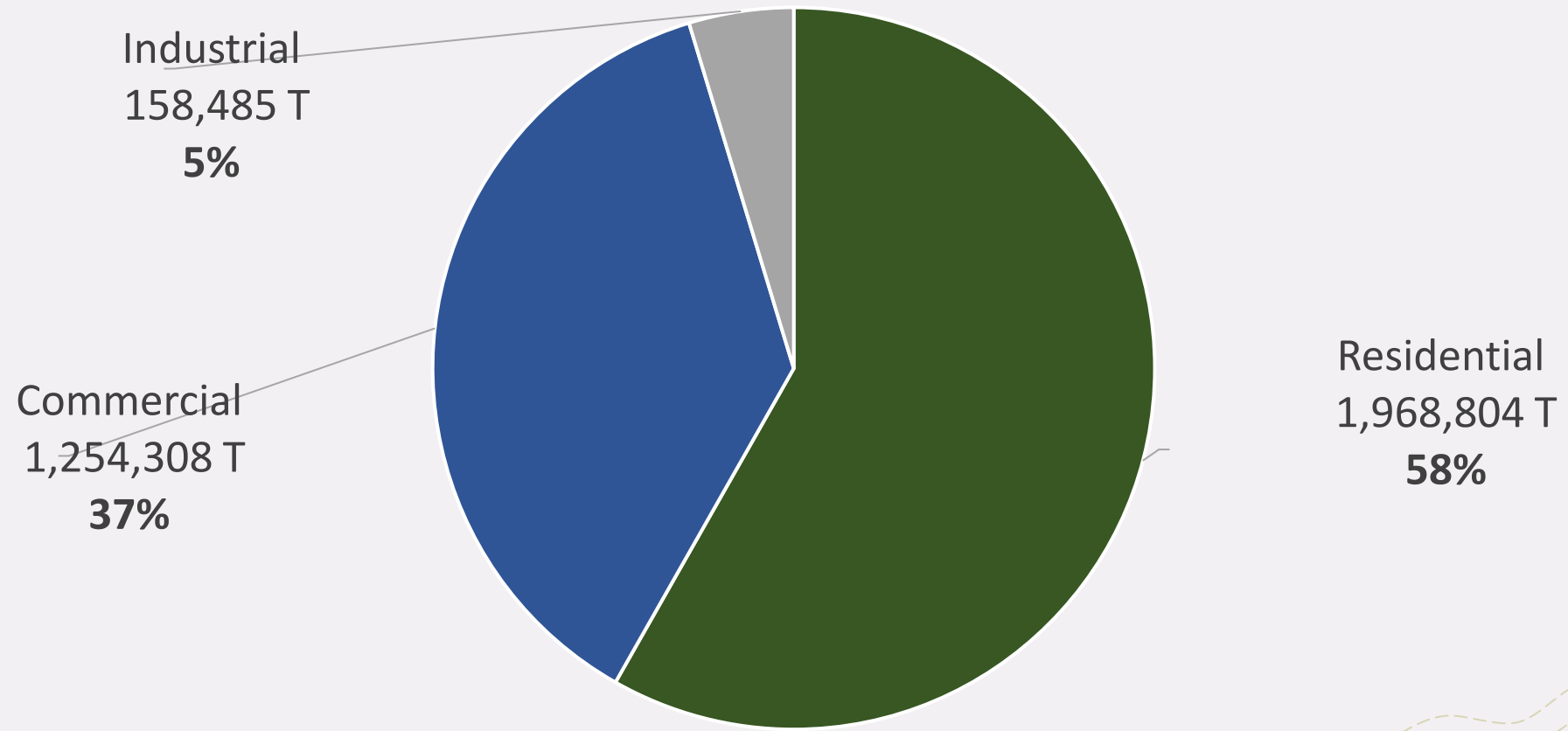
- + Wood, Brush, and Yard Residuals
- + Food Residuals
- + Biosolids or Sludge



Organics Generation

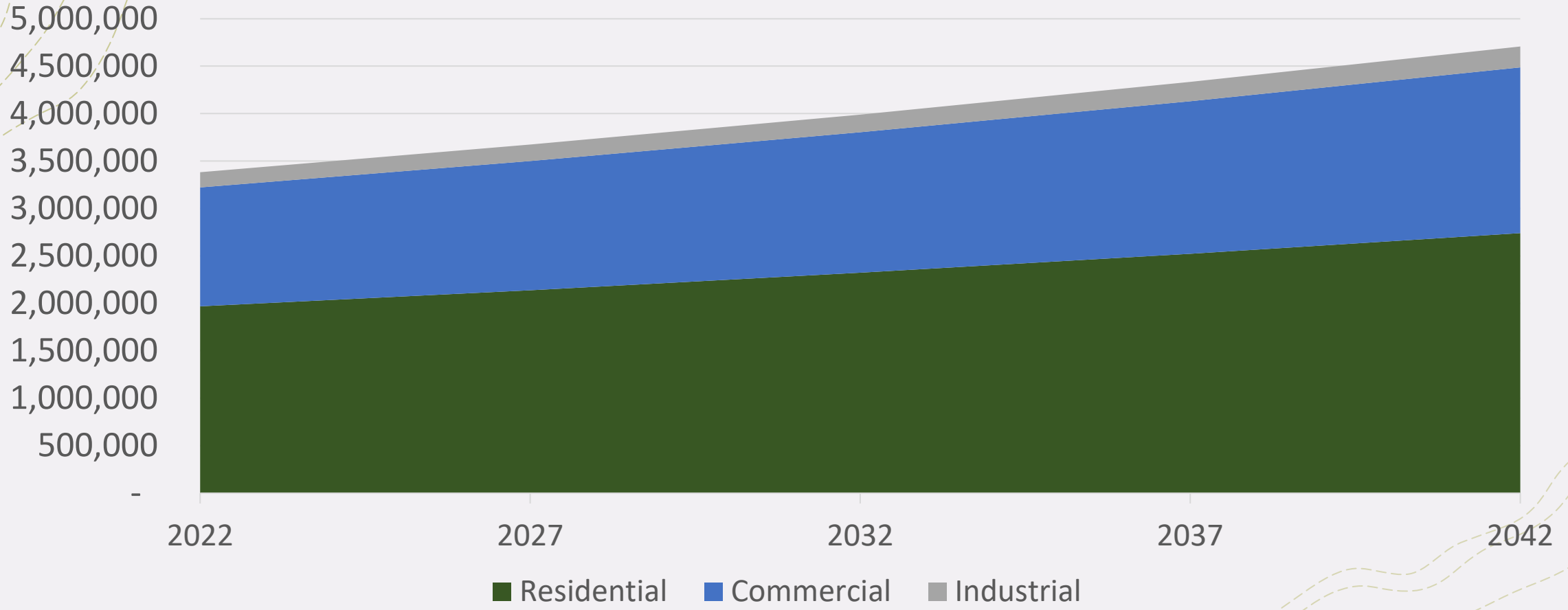
Sector	Total MSW	% Organic	Total Organic (Tons)
Residential	4,280,009	46%	1,968,804
Commercial	6,271,540	20%	1,254,308
Industrial	792,426	20%	158,485
Total	11,343,975	30%	3,381,597

Sources of Organics



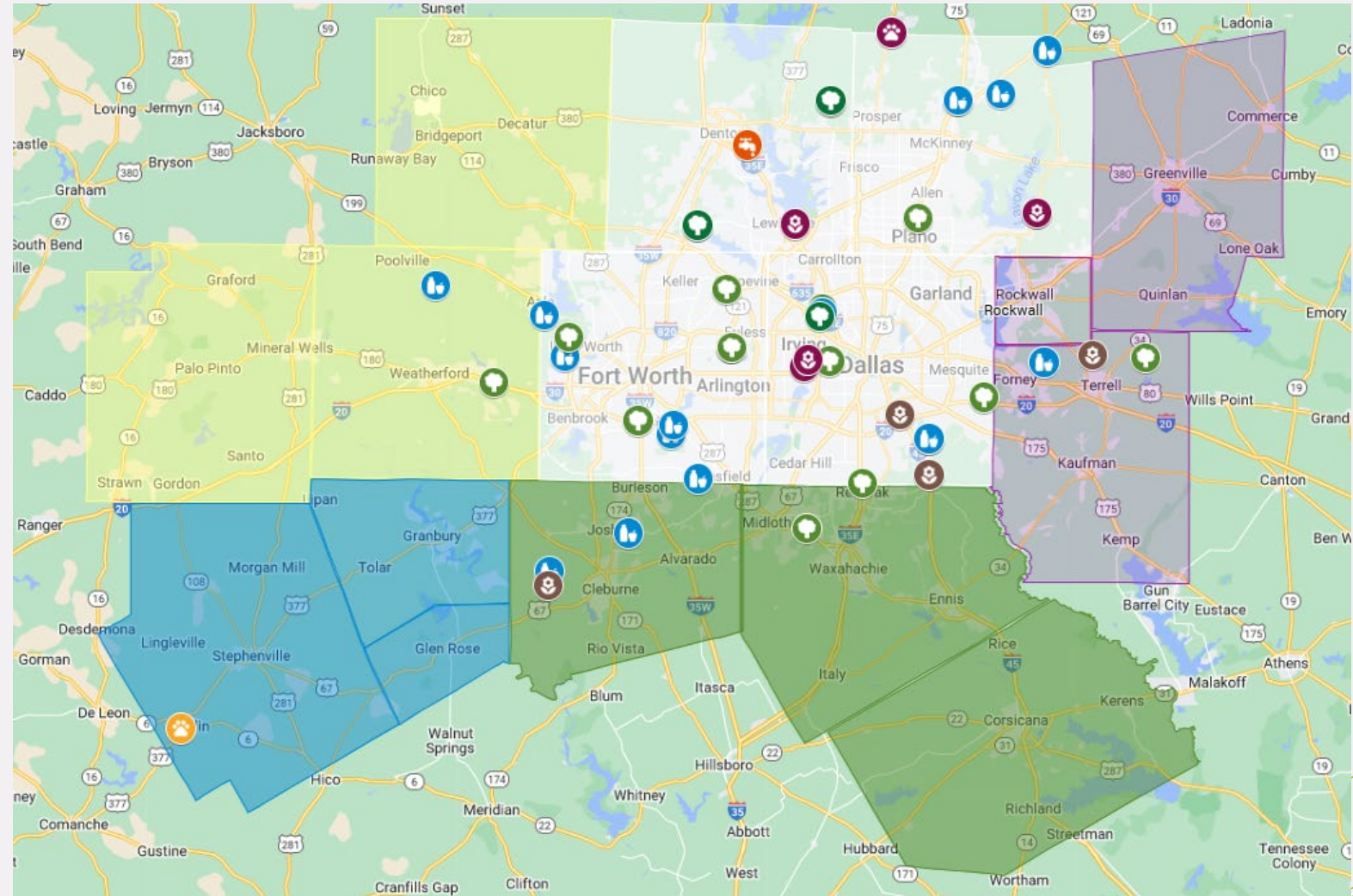
Projected Organic Waste Generation (tons/year)

Source: NCTCOG RRMP



Regional Organics Processing Facilities

Total Capacity
568,000 – 947,000
tons per year

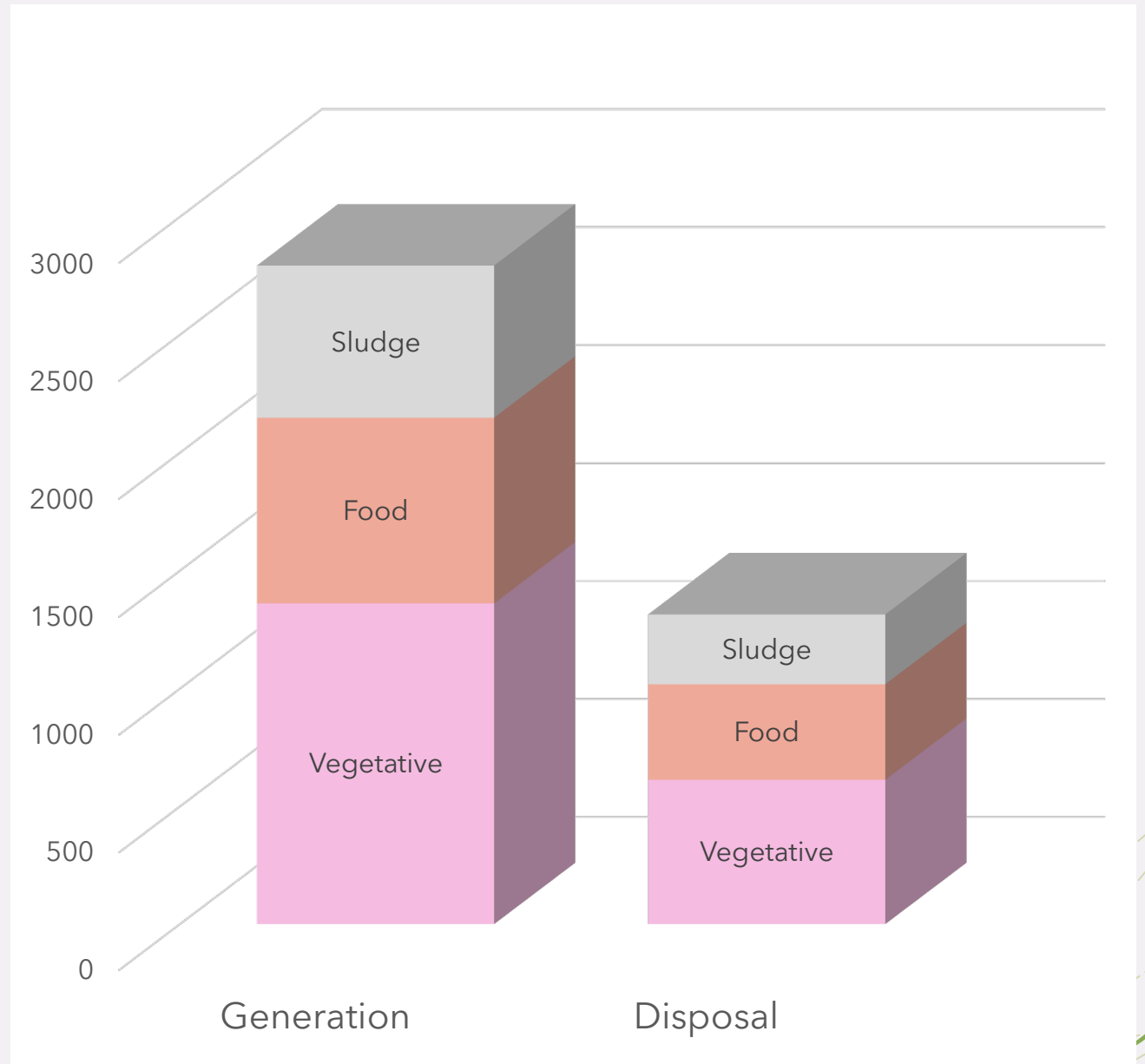


Gap Analysis

3 million tons/yr organics generated

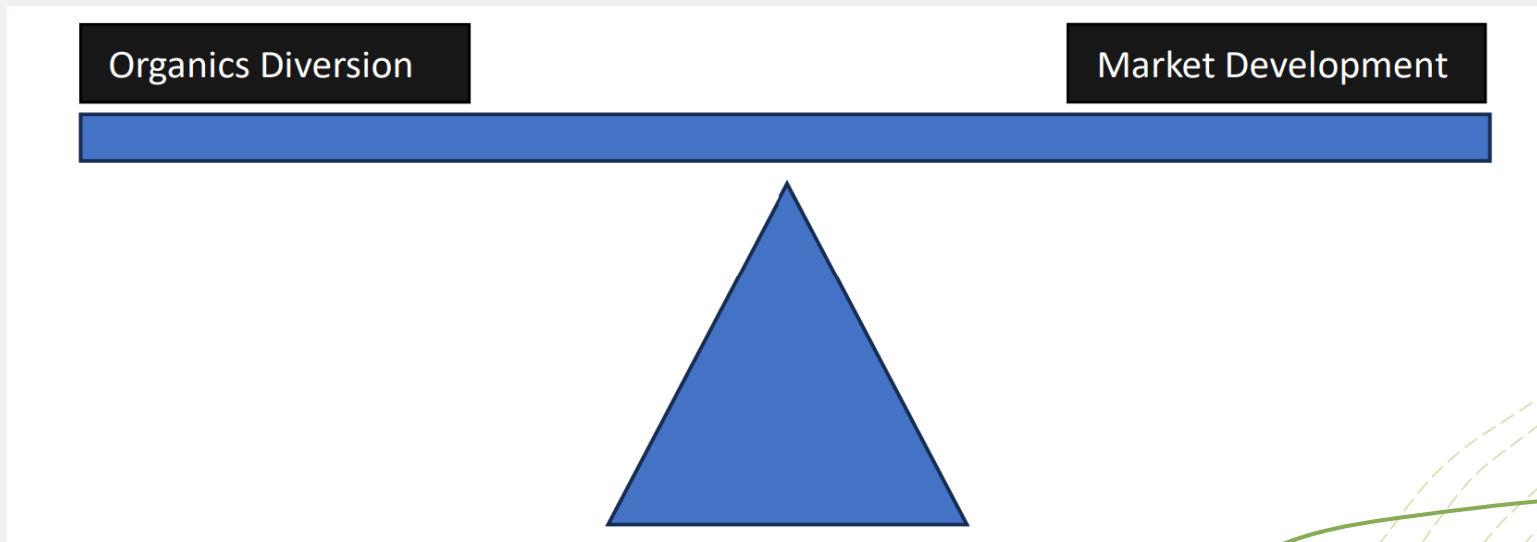
1.5 million tons/yr organics processed
(land application, animal feed, composting)

1.5 million tons/yr is still being disposed



Conclusions

- + Western region needs processing capacity.
- + Entire region needs sludge processing.
- + Markets exist throughout the region, but market development is key to expanding capacity.



NCTCOG Policy and Program Recommendations

Expand markets in agriculture, TxDOT and Stormwater Management.

Create an organics exchange program letting major organic generators and processors understand where additional diversion opportunities exist.

Encourage local government efforts to divert materials, from landfill disposal through feasibility studies and pilot program funding, through grants.

Provide ongoing information on PFAS regulations and opportunities for advocacy.

Prepare model ordinances for mandatory separate organics collection.

Provide information to local governments and institutions related to the existence of firms specializing in the collection and processing of wasted organics.

Conduct a feasibility study designed to reduce restaurant and wholesale food waste disposal.

Develop public information materials supporting residential diversions of food waste.

Prepare model ordinances for processing vegetative waste, e.g.. contracting for brush grinding and material marketing.

Continue to promote don't-bag-it practices and proper yard waste segregation to reduce contamination as part of the existing "Know What to Throw" Program.

Local Government Recommendations

Utilize compost and mulch in stormwater management, erosion control, and parks programs.

Implement collection programs that divert yard waste and brush from the MSW stream.

Identify opportunities for diverting wastewater sludge from landfill disposal or surface disposal to composting once capacity becomes available. Prepare sludge hauling and disposal contracts that require a preference for composting over disposal.

Adopt mandatory food waste recycling ordinances for the commercial sector, including the capture of pre-consumer food waste.

Encourage residents to reduce yard waste collection through don't-bag-it programs and xeriscaping practices.

Establish drop-off locations for food waste and vegetative waste.

Evaluate the feasibility of either purchasing brush processing equipment or contract-grinding of brush material generated from public works and other city or county operations.

Implement in-house food collection programs at local government facilities where feasible, i.e. practicing what is being preached.

Weatherford Regional Compost Facility Study and Implementation Plan

Summary and Outcomes



Prepared for the City of Weatherford Sanitation Division
Funded by the North Central Texas Council of
Governments and the Texas Commission on
Environmental Quality



Risa Weinberger & Associates, Inc.

R. Alexander Associates, Inc.

Purpose

The Weatherford Regional Composting Feasibility Study and Implementation Plan is designed to determine whether a regional compost facility can reduce reliance on landfill disposal and demonstrate that cooperative programs result in more cost-effective services.



Project Approach

Material Supply & Institutional
Assessment

Site Sizing & Selection Criteria

Market Analysis

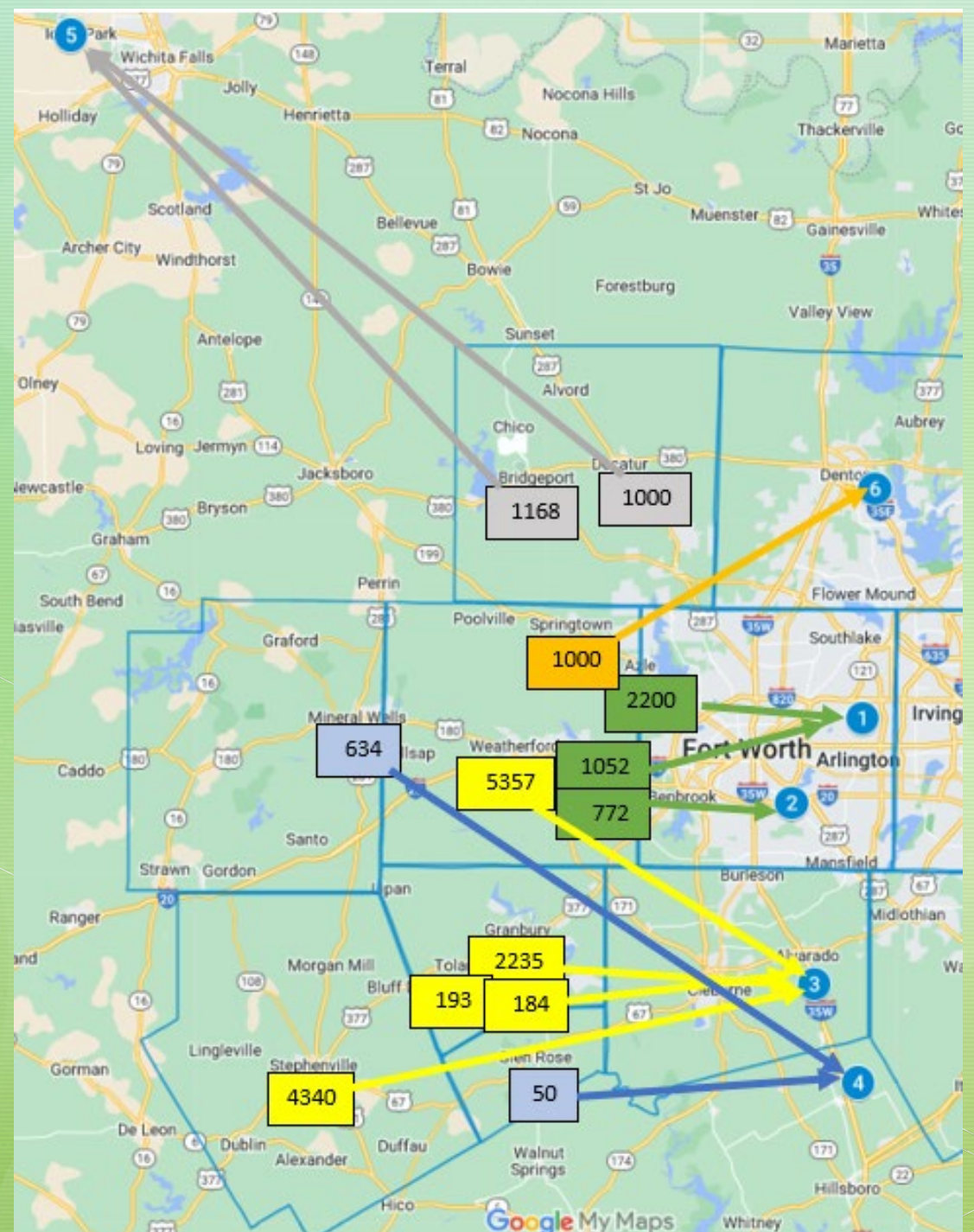
SWOT Analysis

Financial Assessment

Conclusions and Recommendations

Sludge Availability

Estimated 24,000 cubic yards of sludge available in the Region (not including Tarrant County)



Wood Waste & Brush

Approximately 19,000 to 72,000 cubic yards of wood waste will be needed

Sources include:

- Tree trimming companies
- Land clearing
- Utility line clearing
- County Public Works
- Municipal brush collections
- Parks and Recreation
- Storm Event Clean-up



Scenarios

1. Weatherford
Only

2. Small Regional
(Weatherford and
non-affiliated
haulers)

3. Large Regional
(Entire Western
Region)

Material Inputs & Outputs

Estimated Material Availability			
	Scenario 1	Scenario 2	Scenario 3
Sludge Input (cy)	6,570	11,330	24,320
Waste Wood / Mulch Input (cy)	19,710	34,000	72,970
Compost Produced (cy)	11,820	20,400	40,100

Market Analysis

Potential Markets

- Current Market and Production
- Local retail and wholesale
- City uses – Parks and Recreation and Public Works
- Agriculture
- TxDOT



SWOT Analysis Strengths, Weaknesses, Opportunities & Threats

Scenarios

- City Only Facility
- Regional Operation
- Public / Private Partnership

Key Issues

- Material Supply
- Regulatory (PFAS)
- Site Selection & Permitting
- Costs
- Control Over Operations

Partnerships

Key issues to consider regarding potential partnerships include the following.

- Long-term commitment to the project
- Material specifications
- Material acceptance
- Cost and potential revenue sharing
- Environmental Risks



Revenue Assumptions

Sludge Tip Fee

- Small Regional \$42.50/T
- Large Regional \$38.22/T

Mulch Tip Fee

- \$3.00/cy

Compost Sales

- Weatherford Only \$10-\$20/cy
- Small Regional \$10-\$20/cy
- Large Regional \$7.50-\$10/cy

Highest Risk Factors

- Compost Sales Price
- Feedstock Quantity
- Sludge Tip Fee



Program Costs and Revenues

	Scenario 1	Scenario 2	Scenario 3
Operating Costs (equipment, labor, grinding, sludge haul, and debt service)(Year 1)	\$ 369,000 – \$399,000	\$ 565,000 – \$598,000	\$1,059,000 - \$1,433,000
Revenues (Compost sales, tipping fees, avoided sludge haul to Turkey Creek) (Year 1)	\$ 438,000 – \$592,000	\$ 542,000 – \$743,000	\$ 1,048,000 - \$1,419,000
Net Revenues including debt service, operations & revenues (Year 1)	\$(224,000) – \$(40,000)	\$ (22,000) – \$224,100	\$ (230,000) - \$254,000
Net Revenues / Cubic Yard of Compost (Year 1)	\$ (18.90) - \$(3.40)	\$(1.10) - \$10.99	\$ (5.25) - \$5.79
Net Present Value (positive value = net revenue) (over 20 years)	\$(1,186,300) - \$ (620,000)	\$1,798,600 - \$2,698,500	(\$401,600) - \$1,695,000



Next Steps



- Evaluate
- Monitor
- Investigate
- Pursue
- Identify
- Implement



Conclusions

Is there sufficient material for the project?

YES

Is there a market for the compost produced?

YES

Is the project financially viable?

SMALL REGIONAL

